

### Remarks

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding office action is respectfully requested. Following this amendment, claims 1-13, 15-23, and 25-45 remain in this application. Claims 1, 21, 26 and 45 have been amended herein. Claims 14 and 24 have been canceled.

#### **1. 112 1<sup>st</sup> Para. Rejection**

The Examiner has rejected Claims 1-44 under 35 USC 112, first paragraph, as based on a disclosure which is not enabling. Examiner asserts certain essential features are not included in the claims. In particular, the Examiner seems to indicate that certain essential features are missing from the claims, namely the “barrier layer” or an “at least partially sintered moat,” although the rejection is vague as to precisely what is missing.

Respectfully, Claims 1 and 45 have been amended to add the “barrier layer” and Claim 26 is amended to add the “partially sintered moat” in compliance with Examiner’s request. Examiner should note that Claim 45 was nowhere addressed in the action (**which is, therefore, incomplete**) but Applicant’s Attorney believes the present amendment will overcome any concerns Examiner might have. Accordingly, it is believed that Examiner’s concerns regarding missing essential elements are addressed, and the rejection of Claims 1-44 under 112, first para. should be withdrawn. In the event that Examiner refuses to enter this after final amendment, it is respectfully requested that a new office action be issued addressing the rejection of previously submitted Claim 45.

#### **2. 103(a) Rejections**

Examiner has rejected Claims 1-44 under 103(a) as being unpatentable over Dabby (US 6,474,107) in view of Kanamori et al. (US 5,556,442) and Andrejco (US 4,812,153).

Dabby teaches a method of making an optical fiber perform wherein a pure silica core rod has soot applied to an outer surface thereof which is subsequently doped with fluorine in a consolidation furnace. Examiner states that it would be obvious that some fluorine would be stripped from the cladding. Andrejco teaches that application of heat will strip some fluorine from the cladding.

Respectfully, the rejection of Claim 1 is overcome. Most prominently, the last step in Dabby is fluorine doping during consolidation at 1450°C while the preform is lowered into

the heat zone. Since the sintering takes place in the presence of a steady flow of the fluorine dopant, it is not reasonable to expect that any F will be stripped – in other words, the dopant concentrations are such that there will be dopant diffusion into the preform, rather than out of the preform. Notably also, after sintering has taken place, the density of the core and cladding in Dabby are approximately equal (and they are consolidated glass) thereby eliminating the possibility of any further fluorine migration. In the present invention of Claim 1, 26 and 45, as amended, nearly all (or substantially all) of the dopant is stripped from a section of the second portion such that the refractive index is greater than the moat (or second section). This amendment adds the subject matter of Claims 24 and 14, which have been canceled herein and, thus, does not present new issues. The combination of Dabby, Andrejco or Kanamori fails to teach or suggest the invention now claimed. In particular, nothing in Dabby, Andrejco or Kanamori teach stripping nearly (or substantially) all the dopant from the section. Accordingly, the 103(a) rejection should be withdrawn. Additionally, Claims 2-13, 15-23, and 25 and 27-44 are allowable for at least those reasons.

Regarding Claim 26, Dabby teaches a fluorine-doped cladding, not a moat. A moat, as known to persons of ordinary skill in the art, is a depressed structure in a fiber refractive index profile having a refractive index less than the next radially-outward surrounding structure, and which is located inward from the cladding (deriving its name from the mid-evil “moat” which held water). Dabby does not teach or suggest anything remotely like a moat, but, in fact, teaches a down-doped cladding. There is no such structure which completes the outside edge of the “moat.” The refractive index plot in Dabby results in an effective index at the outer edge is the same as at the inner edge, i.e., there is no depressed moat structure relative to the next adjacent radially-outer structure. Further, Dabby does not teach stripping substantially all the fluorine from the radial portion adjacent the moat. Neither Andrejco nor Kanamori correct these fundamental deficiencies. Thus, the 103(a) rejection of Claim 26 is flawed and should be withdrawn. Claims 27-44 are allowable for at least these reasons.

### **3. Conclusion**

Based upon the above amendments, remarks, and papers of record, Applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests reconsideration of the pending Claims 1-13, 15-23, and 25-45 and a prompt Notice of Allowance thereon.

Applicant believes that no extension of time is necessary to make this Response timely. Should Applicant be in error, Applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Randall S. Wayland at 607-974-0463.

Respectfully submitted,

CORNING INCORPORATED



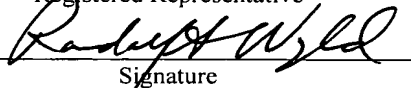
Randall S. Wayland  
Registration No. 36,303  
Corning Incorporated  
Patent Department  
Mail Stop SP-TI-03-1  
Corning, NY 14831

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